

REMARKS

Applicants thank the Examiner for the indication in paragraphs 26-27 that claims 53, 81, 111, 128, 132 and 146 are allowable if rewritten to clarify the claim language. Applicants have amended the claims in this regard and these claims are now believed to be allowable.

This letter is in response to the Examiner's Action dated 29 May 2003. Applicants note a new ground of rejection has been introduced into this paper. Applicants assume that the previous rejections have been withdrawn.

Regarding paragraphs 2-8, the claims have been appropriately amended to clarify the parameter. Regarding paragraph 9, Applicants agree with the Examiner's comment to the degree that the opposite axial ends of the filter structure or filter pack are opposing ends, but the profile of the filter pack itself is not recited and is not necessarily limited to a circular or substantially circular structure. Regarding paragraphs 10-12, the claims have been amended to improve readability. Regarding claim 13, Applicants agree with the Examiner's interpretation regarding paragraph 14, claim 66 should depend on claim 53. That amendment has been entered into this paper.

The Examiner has objected, in paragraph 15, to claim 11 arguing that it is a duplicate of claim 9. In order to promote prosecution, Applicants have canceled claim 11.

In paragraph 16-18, the Examiner rejects certain claims regarding the term "high efficiency". Applicants understand that the removal of the term "high" from "efficiency" will satisfy this rejection, since the claim will recite that the structure has a substantial efficiency to differentiate the claim from the Kahlbaugh et al. structure. While the term "high" efficiency is not defined in the application, the term "efficiency" is clearly defined. In light of the fact that the Kahlbaugh et al. reference uses a simple coarse separation media having minimal filtration properties, Applicants' structure is defined over the Kahlbaugh et al. reference. The Examiner has rejected claims 1, 53, 81, 111, 128, 132 and 146 under 35 U.S.C. § 112 regarding certain claim language. Applicants' amendments have made this rejection moot.

The Examiner has rejected, in paragraphs 19-20, claims 1-20 and 48 under 35 U.S.C. § 102(b) over the public use or sale as outlined in the Examiner's statement. Applicants respectfully traverse the rejection.

The Use Rejection

Briefly, in this case

- (1) the use was experimental only;
- (2) the invention was not completed and ready for patenting until it was tested under actual use conditions in the actual use environment;
- (3) the test was conducted under varied environmental conditions, in secret, with no public availability; and
- (4) sufficient control was maintained to satisfy the current standards.

Contrary to the Examiner's position, the totality of evidence in the Crofoot declarations and in the attachments to this paper show that the alleged use was experimental and not a public use or sale under 35 U.S.C. § 102.

Rejections in this area of the law are governed by *Pfaff v. Wells Electronics Inc.*, 48 USPQ2d 1641 (S Ct 1998). Under the *Pfaff* test, the on sale bar applies when two conditions are satisfied before the critical date. First, the product must be the subject of a commercial offer for sale. If, however, the transaction is entirely experimental, the first test is not satisfied. Secondly, the invention must be ready for patenting. *Pfaff v. Wells Electronics Inc.*, 48 USPQ2d 1641 at 1642. Under the facts in the *Pfaff*, the Supreme Court assumed that the inventor recognized that the invention was completed, was known to be workable, and that no further testing was needed to prove either workability or unobvious properties.

In the instant case, **neither of the *Pfaff* tests are satisfied** and the claims are allowable.

The purpose and intent of the inventors were to conduct an experimental trial to demonstrate that the experimental material (1) could be spun and manufactured on a media, manufactured into a filter and survive the varied conditions of filtration at the test sites and (2) had unobvious properties over the prior art materials. Until the experimentation was complete, (1) the material was experimental (not commercial) and (2) the invention was not ready for patenting.

The Alleged Use was Experimental and
the Invention was not Completed and Ready for Patenting

I. The Alleged Use Was Experimental

Prior to the experimental trial, the experimental fine fiber was not known to be (1) capable of manufacture into a filtration media, (2) capable of forming a filter structure or (3) capable of surviving varied environmental (e.g.) hot, humid use conditions.

Prior to the May 1999 distribution, the material was novel. After the end of the experiment in November 1999, the material was not commercially released until after August 2000. The relevant dates are:

Date	Purpose
March-April, 1999	Electro-spinning and Filter manufacturing plant trial
May-June, 1999	Experimental use filter distribution
November, 1999	End of use trial
September 5, 2000	File initial provisional application
May 31, 2000	File utility case
August 1, 2000	Approve material for commercial use

Under the *Pfaff* test, the on sale bar applies when two conditions are satisfied before the critical date. First, the product must be the subject of a commercial offer for sale. If the transaction is entirely experimental, the first test is not satisfied. *Pfaff v. Wells Electronics Inc.*, 48 USPQ2d 1641 at 1642. Under the facts in the *Pfaff*, the Supreme Court assumed that the inventor recognized that the mechanical invention as shown in the drawings was known to be workable and no further testing was needed to prove either workability or unobvious properties. In the *Pfaff* case was that there was no evidence of experimental use and the use in *Pfaff* was assumed by all to be a commercial sale. *Pfaff v. Wells Electronics Inc.*, 48 USPQ2d 1642 at 1643-1645. *Pfaff*, for its part, argued that the actual part in the invention had not been reduced to practice. The court held that the part was ready for patenting, at least in part, since testing was not required.

In the instant case that the evidence shows that the intent of the inventors was that the material needed extensive testing to determine that the materials could be used in the intended purpose.

Regarding the experimental nature of the trial, the following discusses the Crofoot declaration, refers to its attachments and discusses additional documents (copies attached to this paper) that detail the experimental trials from January of 1999 through December of 1999, the critical period for this application. The parent provisional application was filed in September of 2000. As long as the actions of Donaldson Company, Inc. during this period were considered experimental, then they cannot act as a prior art event prior under 35 U.S.C. § 102. The polymer material did not leave the premises of Donaldson Company, Inc. until the individual filter units were distributed to the experimental test locations in April of 1999. Accordingly, there can be no prior art event prior to April 1999; however, as detailed in the following documents, the trial, conducted from April 1999 through about November 1999, was entirely experimental as evidence by the following documents.

Exhibit 1 (Exhibits 1-5 are dated January of 1999) is an e-mail indicating that the trial using the new polymer would be conducted and that the polymer material **on the media** would **be controlled and tracked using labels** that would identify the trialed material. The labels were put in place in case an:

"... element is returned from the field, I can determine if it was manufactured using FP2-X." (the new polymer material was FP2-X)

Exhibit 2 similarly shows that the rolls of media using the new polymer will be **marked with a red band and a label indicating the use of the experimental material** and that any returned material will be identified as the experimental units.

Exhibit 3 similarly shows that the trial was considered a **temporary use to determine and evaluate the media**. The memo shows that personnel:

"... will track the use of the rolls by listing the roll number with the time and date of production. Since the elements have a time/date stamp, any returned elements can be linked with the LH type ... "

Exhibit 4 similarly shows the planning for the experimental trial to:

"... evaluate new fine fiber type ... "

and that the personnel are to:

"... log roll numbers used on production runs for tracking purposes."

Exhibit 5 shows that as of the date of the exhibit, the fine fiber media was clearly under development, was not commercial and had not completed its "probationary" trial.

Exhibit 6 dated February of 1999 shows that the internal use of the material would was still considered a "trial" of the new material on different media layers.

Exhibit 7 dated March of 1999 shows that the material was still considered on a trial basis and that suitability for commercial production had not been demonstrated.

Exhibit 8 dated October of 1999 shows that the material was still considered on a trial basis and that suitability for commercial production had not been demonstrated.

Exhibit 9 dated December of 1999 shows that the project was "experimental," that the "viability" of the production technology for the polymer required a demonstration and that commercial production had not begun.

Clearly, as of December 1999, three months after the critical date for the instant application, the material remained experimental and was in a "trial" basis. The material was not approved for commercial production until after August of 2000 (see Supplemental Crofoot Declaration, ¶7 and Attachment 5) at which time it was approved for production and used in a number of filter media structures. Between December of 1999 and August of 2001, no activity outside Donaldson Company, Inc. occurred other than the trial of the materials at the trial sites. The trial was successful and the materials were discarded at the trial locus.

a. The Trial Was An Experiment To
Determine Whether The Fiber Could Be Made Into A Filter And To
Determine If The Fiber Could Survive Actual Operating Conditions

The totality of circumstances shows that an experimental trial was required to prove that the fine fiber material could be made into a filter and that the filter would survive the harsh and varied use environments. Applicants through their employer and assignee of this application, Donaldson Company Inc., conducted an experimental manufacturing and use trial of the claimed

invention, a fine fiber filter material in an air filtration cartridge, in order to complete the invention by proving that the invention was operable under actual use conditions before commercialization could commence. The experimental trial was conducted from April 1999 through the end of the year and was conducted in the only manner available to Donaldson Company Inc. that could obtain meaningful experimental results in the application. Applicants utilized five customer facilities, with varied environmental conditions, to determine if their new fine fiber material would work for its intended purpose -- to provide air filtration properties for a power generation station turbine over a broad range of operating and environmental conditions. In any change in materials testing is essential to prove operability in all anticipated environments. The reality of the power generation industry necessitated Applicants' method of experimentation, which minimized the customer awareness of the experimentation. At the end of the useful lifetime of the filters (late 1999), the filters were discarded, and commercial operations did not resume with this fine fiber material until well after the critical date. This type of experimentation was reasonable in view of Applicants' experimental purpose.

The relevant factors indicative of experimental purpose support a finding that the experimental use exception applies in this case. See MPEP § 2133.03(e)(4) (listing the factors indicative of an experimental purpose). Each factor is discussed in turn below.

b. The Invention Was Never Detectable by the Power Station Workers User and Was Never Exposed To The Public

The invention was never exposed to the public but was used only in power generation facilities not open to public inspection. Further, the nature of the invention is that the materials cannot be seen or be identified by a simple inspection of the filter. The fine fiber layer is made of nano-sized fiber spun on a conventional non-woven media layer and cannot be seen without photo- or electron microscopy. The identity of the polymer cannot be determined without removing a sample from the filter and subjecting it to advanced instrumental analysis. The operating personnel at the installation would be entirely unaware of the material even if the filters were closely inspected.

c. Applicants Conducted Their Tests in the Only Manner Possible Under the Circumstances

i. Applicants Had to Test the Invention at Customer Facilities

The nature of the claimed invention necessitated at least some actual use testing in an operating facility before the invention could be considered to be completed. See *Kolmes v. World Fibers Corp.*, 41 USPQ2d 1829 at 1833 (Fed Cir 1997). In the filtration arts, and in the application of nano-fiber materials to filtration technology, laboratory testing can roughly differentiate between candidate filters but cannot accurately predict actual use success or performance. Applicants do not operate any power generation facilities in which the experimental fine fiber material could be tested in its intended environment. Applicants chose a limited set of five customers out of over one thousand of its turbine power plant filter customers to determine if the invention worked in its intended environment under varied operation and environmental conditions. The accessibility of the five customer sites was limited to employees of those customers and was not accessible to the general public. (Supplemental Crofoot Declaration ¶16)

ii. Applicants Had To Limit Customer Awareness Of The Experimentation

First, the trial must be conducted as a blind trial to obtain reliable data. Knowledge by the operating personnel could compromise the usefulness of the data.

Second, Applicants' customers are reluctant to allow experimentation at a power generation facility because any equipment failure or loss of efficiency can result in significant monetary losses. For example, a power plant can lose as much as \$3,000 a minute if a power generator loses substantial efficiency. With this backdrop, Applicants could not inform the five selected customers about the experiments because those customers could have affected the outcome of the trial and would not want to risk any loss in power generation.

Had Applicants informed the five experimental customers of the testing through direct or indirect means, those customers would have likely refused to participate in the experiments. For example, if Applicants changed the filter pricing, asked for a confidentiality agreement, asked that the experimental filters be monitored or treated any differently than other filters, or otherwise indicated that experimental filters were different, the experiment would not have

occurred. Applicants chose not to take the risk that the customers would refuse the testing to ensure that experimentation did occur. Based upon prior experience with customers, Applicants believed that they approached their experimentation in the only way possible to achieve their experimental purpose. (Supplemental Crofoot Declaration ¶17 and Attachment 5)

iii. Applicants Were in Effective Control of the Experiment

The reality of the power generation industry limited Applicants' choices for their experimentation on the new fine fiber material. Donaldson Company Inc. had no capacity to test the filters under use conditions and needed a test facility with the right environmental conditions. Some actual use testing is often needed in an operating facility before the invention could be considered to be completed. *Kolmes*, 41 USPQ2d at 1833. The power generation customers were selected because Donaldson Company Inc. knew that the performance of the filter units, and hence the fiber performance, was monitored by customer turbine operating engineers on a minute-by-minute basis. Any change in turbine operation from a drop in filtration efficacy or capacity would draw immediate attention from the operators of the facility and would be reported to Donaldson Company Inc. immediately. Donaldson Company Inc. could not obtain better control of the Experimental conditions if it had controlled the facility itself. In view of Applicant's knowledge of customer operation methods, Applicants had control over the experiments conducted at the five customer sites. Applicants specially marked and tracked filters containing the experimental fine fiber material. After marking, Applicants shipped the experimental units to their customers. See Exhibits 1 to 8 to this paper.

Upon receipt of the filters having the experimental fine fibers, the customers would not have had any reason to believe or investigate into whether the material was new or different. Applicants did not identify the filters differently and the differences between the old and new fine fiber layers in the filters were not visible upon inspection of the filter units. Based upon this, the five customers would have treated the experimental filters like all other filters so as to maximize profit. This ensured that the experimental filters were exposed to real environmental conditions and were exposed to actual operating conditions.

Applicants made their selection of the five experimental customers because those customers were known to closely control and monitor power generator performance. The experimental customers' minute-by-minute monitoring of their power generation turbines would

show if a problem (increased pressure drop, reduced airflow or efficiency, or difficulty in pulse cleaning was resulting from poor filter performance) existed with the experimental filters. The potential loss in revenue due to power generator downtime, which is discussed above, is reason enough for the five experimental customers to closely monitor performance.

Any filter that did not perform to the expectations of any the five customers would have been returned to the Applicants. The special identification numbers could then be used to identify that an experimental filter did not perform for its intended purpose in its intended environment. (Suppl. Decl. Crofoot ¶3, Attachment 2)

The inventor's control over the invention is even more substantial than the control exercised by the inventors in the facts of the experimental use found in *EZ Dock Inc. v. Schaefer Systems Inc.*, 61 USPQ2d 1289 (Fed. Cir. 1997). The dock in *EZ Dock* was sold to a user who installed it on his property on the shore of the Mississippi and used it as designed. While the inventors visited the dock and made repairs for free, *id.* at 1293, they contemplated no particular tests or a period of time over which the tests would be undertaken. *Id.* at 1297 (Linn, J., concurring). Nevertheless, the court found that the inventors' monitoring of the dock showed that they were still working on the experimental stage of its development. See *id.* at 1293. In *EZ Dock* the sale was found to be primarily experimental and not commercial. In the present case, Applicants subjected the invention to actual conditions, monitoring finite variables such as increased pressure drop, reduced airflow and efficiency, and difficulty in pulse cleaning resulting from poor filter performance. Unlike the inventors in *EZ Dock*, Applicants monitored the specific variables that they expected to determine the success or failure of their experiment in the actual use environment. The inventors also had similar control over the use testing as in the facts of *Kolmes*, 41 USPQ2d at 1833. Because Applicants exercised more regulation and precise monitoring than was present in previous authoritative cases where the court found the inventors to have retained control over the experiment, the inventor's sale in this case was experimental rather than commercial.

If Applicants requested that the five experimental customers make sure that all spent filters within a particular lot number be returned, this would have been beyond the scope of the pre-existing relationship. The undesired result of alerting the five customers that something was different about those filters would be a refusal to participate in the experimentation.

iv. Applicants Did Not Charge Customers for the Experimental Fine Fiber Material

The five companies' payments to Donaldson reflecting the regular price of filters not containing the experimental fiber did not constitute a commercial sale. Whether a payment is made for an invention is a consideration in determining whether a transaction is a commercial sale, but the fact that a company pays for the use of a patentee's device is not dispositive. *Monon Corporation v. Stoughton Trailers, Inc.*, 239 F.3d 1253, 1260 (Fed. Cir. 2001). In *Monon*, the court recognized that a company's payment to a patentee for the construction of an experimental trailer did not positively establish, as a matter of law, the presence of a commercial sale, because the patentee did not profit from the sale and because it only charged the company for the cost of building the trailer. *See id.* In the case at hand, Donaldson Company Inc. expended large sums of money to produce the experimental fine fiber material. However, over the experimental period, Applicants never charged the five experimental customers for the experimentation or for the cost of the added fine fiber material. Donaldson charged the five experimental customers the same price for the filters that included the experimental fine fiber as it had been charging those customers for the old fine fiber filters. (Suppl. Decl. Crofoot ¶8) Further, any increase in charges for the experimental material would have alerted the five experimental customers that testing was occurring, which was a result Applicants did not want to achieve. Our case is similar to *Monon* because the parties in both cases intended the payments to cover the cost of materials or to function as a part of the experiment itself, rather than to provide a profit from the sale of the respective inventions. The five companies' payments to Donaldson Company, Inc. were therefore experimental in nature and did not manifest a commercial sale. In fact, the experimental trial in which the regular manufacturing schedule was interrupted for a plant trial, cost more than was received.

v. Applicants Limited the Extent of the Alleged Use To The Required Use of the Invention

Although some experimentation on the fine fiber product had to be conducted at customer facilities, Applicants limited: (1) the extent of the distribution of experimental fine fiber filters, and (2) the time of the experimentation.

First, in such an experiment, all filters in an installation must be identical to obtain reliable data. These filters are used in large banks of multiple filters to filter large volumes of turbine intake air. One entire installation could require 300 to 600 filters for a full installation. Each location could have one, two or more turbine installations. Applicants limited the experimentation to five customers to which Applicants shipped less than 2 percent of Donaldson Company Inc.'s total weight of manufactured media in 1999. Applicants had to manufacture and ship a critical number, approximately 3,000 filters (about 600 per customer) that included the experimental fine fiber, to obtain useful manufacturing and operational testing data. If Applicants made and used less than 3,000 filters, the data might not have been reliable because 300-600 filters are typically being used at a power plant at any given time. A sufficient number of filters were needed in the experiment to provide reliable manufacturing and use data that demonstrated the new material could be used in manufacturing and could work in its intended environment. Suppl. Decl. Crofoot ¶13.

Second, Applicants only conducted the experiments from April through November 1999. Once the initial trial was completed, commercial operations did not resume until late in September 2000. This correlates to the first shipment of media that included the experimental fine fiber material and the time it typically takes a power generation station to exhaust the supply of shipped filters. (Suppl. Decl. Crofoot ¶ 7, Attachment 5)

vi. Applicants' Test Conditions Were Varied

In contrast to the Examiner's position, Applicants tested the experimental units in diverse milieus in order to ascertain their filtration properties. An arrangement that is intended to meaningfully test the characteristics of an invention over varied conditions is indicative of experimental purpose. *See Monon*, 239 F.3d at 1259. In *Monon*, the patentee provided a transport company with an experimental trailer to "use...in any and every and the most stringent [conditions possible]" in order to determine if the trailer was durable enough to withstand heavy use. *Id.* The court concluded that the contract between the parties may have simply been an agreement to test the durability of the trailer rather than a commercial sale. *Id.* In the present case, Applicants chose a varied cross-section of environmental conditions for the testing, including hot versus cold combined with dry versus humid climates. Applicants wanted to establish that the experimental units would function effectively in a wide variety of

environmental conditions. In both the present case and in *Monon*, the varied test conditions were selected in order to provide firm empirical evidence of the utility of the invention.

In the case at hand, the five experimental sites were Saudi Arabia (hot and dry); Santiago, Chile (cool and humid); Elwood, Illinois (hot and humid); Belle River, Michigan (hot and humid); and San Diego (mild temperature and humid). These sites represent a diverse set of climatic and particulate conditions, which all relate to the intended environment and purpose of the experimental fine fiber.

For example, from May through November 1999, San Diego's average temperature ranged from 57 to 69 degrees Fahrenheit. The average relative humidity in San Diego typically reaches 82 percent during the months of May through November. In Joliet and Chicago, Illinois, which are near Elwood, the average high temperature for July 1999 was above 78 degrees Fahrenheit and the average relative humidity typically reaches 86 percent, respectively. In Santiago, Chile, the average temperature ranges from 47 to 63 degrees Fahrenheit from May through November and the average morning relative humidity reaches 95 percent in July and August. Saudi Arabia is hot and dry during the majority of the year. Further, this test locus has large quantities of particulates such as sand that are not found in any of the other selected sites. Regardless of the actual conditions during May to November 1999, this diversity in climatic conditions demonstrates Applicants' desire to select locations with varied climatic conditions, including hot and humid locations.

vii. Applicants Did Not Commercially Exploit the New Fine Fiber Material Until After the Critical Date

Applicants did not start selling the new fine fiber material commercially until a year after the experimentation period ended (after September 2000). Applicants did not display samples of the new fine fiber, demonstrate models or prototypes, or advertise the new material until after the critical date of the patent. There was no attempt to penetrate the market with the shipments to the five customers because Applicants did not want anyone, including the recipient, to know that the new fine fiber material was being tested. (Suppl. Decl. Crofoot ¶ 7, Attachment 5)

Clearly, as of December 1999, three months after the critical date for the instant application, the material remained experimental and was in a "trial" basis. The material was not approved for commercial production until August of 2001 (Suppl. Decl. Crofoot, ¶7, Attachment

5), at which time it was approved for production and used in a number of filter media structures. Between December of 1999 and August of 2001, no activity outside Donaldson Company, Inc. occurred other than the trial of the materials at the trial sites. The trial was successful and the materials were discarded at the trial locus.

II. Applicants Did Not "Complete" the Invention in the New Fine Fiber Material Until After the Critical Date and the Invention was not Ready for Patenting

The second part of the *Pfaff* test relates to whether the invention was ready for patenting. The invention was not ready for patenting because it was not complete until the trial was complete. Contrary to the Examiner's position, the Applicants did not "complete" the invention in the new fine fiber material prior to the experimental trial. The trial demonstrated that the material could be used for its intended purpose in its intended environment. Before the trial, Applicants had only made small amounts of laboratory samples for laboratory testing. At the time the Applicants shipped the experimental filters to the five test sites, Applicants had no data that showed that the fine fiber of the invention could be manufactured into a filter unit and that the resulting filter could survive actual use conditions. The results from the experiments on the new fine fiber were used to determine if the fiber would perform its intended purpose of filtration in its intended environments.

In the Examiner comments, the Examiner takes the position that the invention was "completed" before the experimental trial. In this regard, the Examiner appears to refer to the *Pfaff* case. In the *Pfaff* case, the court held that once the invention was "complete" and offered for sale, that the on sale bar was triggered. However, in the instant case the invention was not "complete" as the invention was in *Pfaff*. The facts of the experimental use of the fine fiber filter structures of the invention are different than the facts in *Pfaff*. These facts are important differences and would reverse the findings of the court. In *Pfaff*, the invention was clearly completed, no experimentation was required and the only thing necessary to make a working model of the invention was to develop the tooling and run the production of the socket. While the court does discuss certain testing that the inventor considered important, it is clear that the court decided that the drawings and other developmental aspects had completed the invention since it would work exactly as expected by the inventors.

In the case at hand, the facts are clearly the opposite. The experiments done by the inventors in the laboratory were sufficient to roughly rank filtration properties of the structures according to the laboratory tests. These tests, however, would not predict whether the fine fiber material could survive manufacturing conditions during the manufacture of a filter and placement of the filter media in a cartridge. Further and more importantly, the laboratory test could not predict whether the fine fiber material would survive the varied conditions of temperature, humidity and particulate faced by the filters when used under actual filtration conditions in a power plant. The invention could not be considered completed until data showed that the material could be manufactured and used as intended in its intended environment. This is particularly true in light of the fact that prior to the experimental use of this polymer, previous versions of the fine fiber material were known to fail under conditions of heat or humidity.

The *Pfaff* case clearly states:

Nevertheless an inventor who seeks to perfect his discovery may conduct extensive testing without losing his right to obtain a patent for his invention—even if such testing occurs in the public eye. The law has long recognized the distinction between inventions put to experimental use and products sold commercially...

Pfaff v. Wells Electronics Inc., 48 USPQ2d 1641 at 1645

Applicants assert that under the facts of *Pfaff* the use was experimental and was not complete until the fine fiber was proved to survive actual use conditions in the actual use environment. Clearly the material was not ready for patenting until that proof occurred. The facts in the *Pfaff* case clearly indicate that in order for material or an invention to be ready for patenting the invention must be shown to work as designed in the intended environment.

The Federal Circuit in *EZ Dock Inc. v. Schafer Systems Inc.*, 61 USPQ2d 1289 (Fed Cir. 2002) further explained the experimental nature of the trials. The facts of the experimental trial in the *EZ Dock Inc.* case and the facts of the experimental trial in the instant case are markedly similar. As is true in the *EZ Dock Inc.* case, Applicants did not have the invention "for sale" in a commercial sense. The Applicants did not charge for the fine fiber aspect of the filters and the filters were distributed to test whether the filters could hold up under the harsh environmental conditions of temperature and humidity. The Federal Circuit cites with agreement *Gould Inc. v. United States*, 198 USPQ 156 which states that the purpose of the experiment to ensure that the article was:

"capable of performing its intended purpose in its intended environment."

Gould Inc. v. United States, 198 USPQ 156 at 164. *EZ Dock* 61 USPQ2d at 1292-1293, states:

[2] This focus on the requirements for a statutory bar, however, could raise questions about the effect of the Supreme Court's recent clarifications of the standards for a statutory bar on the proof of experimentation adequate to negate the bar. In *Pfaff*, the Supreme Court expressly preserved the experimental use or sale negation of the section 102 bars: "Nevertheless, an inventor who seeks to perfect his discovery may conduct extensive testing without losing his right to obtain a patent for his invention -- even if such testing occurs in the public eye. The law has long recognized the distinction between inventions put to experimental use and products sold commercially." *Pfaff*, 525 U.S. at 64. Experimentation evidence includes "tests needed to convince [the inventor] that the invention is capable of performing its intended purpose in its intended environment." *Gould Inc. v. United States*, 579 F.2d 571, 583, 198 USPQ 156, 167 (Ct. Cl. 1978); *Kolmes v. World Fibers Corp.*, 107 F.3d 1534, 1540, 41 USPQ2d 1829, 1833 (Fed. Cir. 1997) ("testing was...required in such an environment in order to ensure that the invention would work for its intended purpose"). Indeed in *Pfaff*, the Supreme Court reiterated its guidance in *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 137 (1877), that an inventor does not inappropriately delay filing "by a bona fide effort to bring his invention to perfection, or to ascertain whether it will answer the purpose intended." *Pfaff*, 525 U.S. at 64-65. Thus, the Supreme court and this court apply the experimental use negation without conflict with the "ready for patenting" prong of the new on-sale bar test. Indeed as noted earlier, the Supreme Court acknowledged that a litigant may show readiness for patenting with evidence of reduction to practice. Like evidence of experimentation sufficient to negate a bar, reduction to practice involves proof that an invention will work for its intended purpose. *Scott v. Finney*, 34 F.3d 1058, 1061, 32 USPQ2d 1115 (Fed. Cir. 1994). Even beyond this overlap of the experimental use negation and the ready for patenting standard, however, the Supreme Court explicitly preserved proof of experimentation as a negation of statutory bars.

In the Examiner's comments, the Examiner focuses on "control" of the invention. The control made by the inventors in the *EZ Dock Inc.* case is virtually identical to the extent of control of the inventors in the instant case. As shown in the documents discussed above, the inventors had identified the filters tested in the experimental use by unique numbering system. The inventors left the filters at the testing site for the purpose of seeing whether the filters succeeded or failed for their intended purpose. Such are the facts of the *EZ Dock Inc.* case where the inventors left the dock in the possession of the person using the experimental unit and waited to determine whether the dock would succeed or fail in its intended purpose. During the trials in the instant case and in the case in *EZ Dock Inc.*, the tester had almost total control of the invention that was out of the possession of the inventors during the entire experimental use. Control was sufficient to obtain useful results and to keep the invention from the public eye. Analogous to *EZ Dock* Applicants had effective control over the filters of the experimental use during the trial. Since the experimental use cannot be used for rejection of the claims, this rejection must be withdrawn.

In summary, Applicants have satisfied the *Pfaff* tests regarding experimental use. The invention was entirely experimental and was not complete or ready to be patented under the *Pfaff* tests. Sufficient evidence had not been gathered to show that the fine fiber had improved properties with respect to the prior art materials or that it could act in its intended use in its intended environment. The totality of the circumstances shows experimental use, since the Applicants conducted a single manufacturing trial for making the fiber the fiber, a single manufacturing trial for adding fiber to the media, a single trial to make the filter and a single use trial for the filter units. Once the trials were complete, no activity outside Donaldson Company, Inc. occurred until the material was commercialized in September of 2001. No public activity occurred. Applicants provided the filters to customers known to maintain their operating facilities without public contact and under minute-by-minute control to ensure the fibers performed adequately. Control was maintained over the units by recording the information useful to track the filters during the use trial. A single test was conducted over a period of about nine months, the useful life of the filter units. Once the test was complete, the units were discarded. Lastly, no payment was made for the fine fiber portion of the filters. Payment was only taken to reimburse Applicants for the cost of the conventional portion of the invention. Applicants have satisfied the considerations regarding experimental use under the *Pfaff* test,

since sufficient evidence had not been gathered to show that the fine fiber had improved properties with respect to the prior art materials.

Applicants assert that the alleged use is not prior art against the invention and cannot be combined with a secondary reference under U.S.C. § 103. Accordingly the following rejections should be withdrawn.

In the Examiner's paragraphs 21 and 22, the Examiner rejects claims 3-7 under 35 U.S.C. § 103 over Kahlbaugh et al. combined with the public use or sale discussed above. Applicants respectfully traverse the rejection.

Briefly, as Applicants have pointed out and proved in numerous papers, the Kahlbaugh et al. reference in a unique structure involving multiple layers of fine fiber and a coarse separation media. This unique structure is unlike typical filters. The coarse separation layer is unlike typical filtration media layers. With this in mind, there is no logical reason to combine the filter structures cited with Kahlbaugh et al. Further, if such structures were combined with Kahlbaugh et al., a very different filter structure would result.

In the Examiner's paragraph 23, the Examiner has rejected claims 8 and 37 under 35 U.S.C. § 103 combining Emig et al. with the public use or sale discussed above. The structure shown for the cylindrical pleated media used in the experimental test is extraordinarily different than the Emig et al. structures. The Emig et al. structures are vacuum cleaner bags having a small layer of the fine fiber incorporated in the vacuum cleaner structure. These structures are so different that one of ordinary skill in the art would not take the fine fiber layer from Emig et al. and place it into a cylindrical structure claimed by Applicants.

In the Examiner's paragraph 24, the Examiner rejects claims 48 through 52 under 35 U.S.C. § 103 over Engel in combination with the public use or sale. The Examiner argues that the pleats and end caps of the invention are shown in Engel. Applicants respectfully traverse the rejection.

The Engel system is for a large internal combustion engine and is not a filter used in the installation of the invention. Further, the experimental structures are not available as prior art for combination with Engel.

In the Examiner's paragraphs 26-28, Applicants note the Examiner's indication that claims are allowable. Applicants thank the Examiner for such indication. Applicants have

written these claims to remove any remaining issues under 35 U.S.C. § 112 and they are, I believe, to be allowable and ready for issuance.

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

12 Sept '03
Date



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